

“You cannot solve a problem with the same mind that created it.”

— Albert Einstein

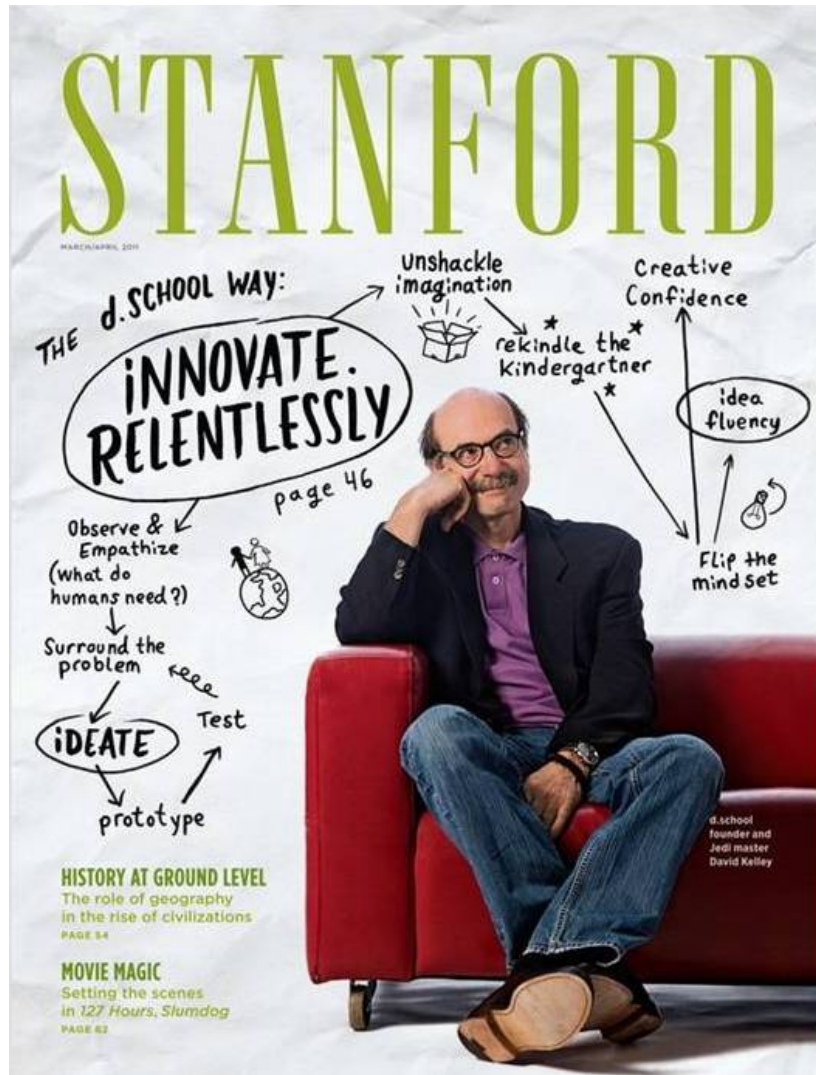
an introduction to
Design Thinking

Manoa Innovation Center &
Iolani School Student Center
July 18, 2011



What is this about?
Who is behind this?
Why are we doing this?
How did this get started?
Where are we going?

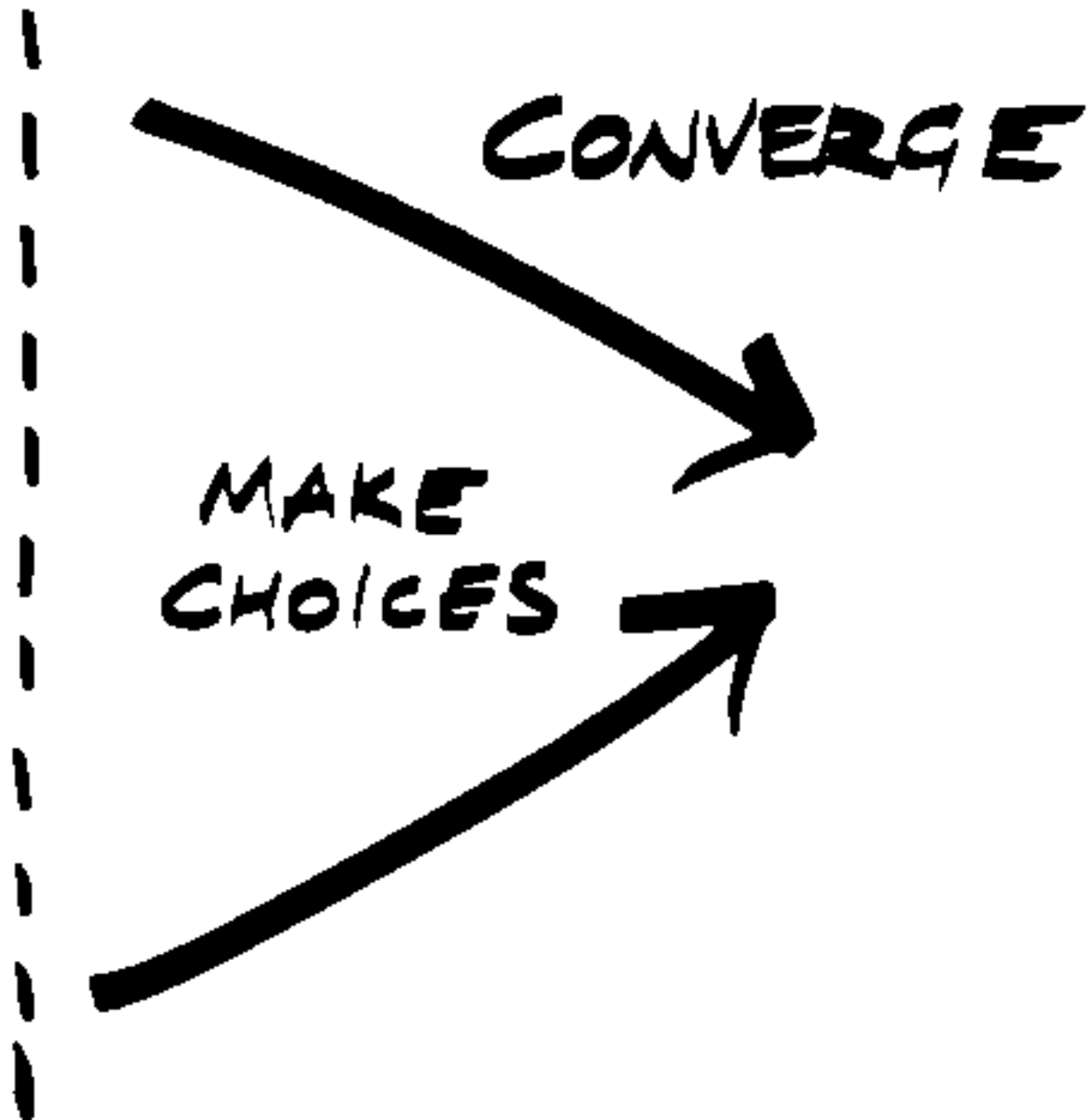
Background Design Thinking



- David Kelley, founder of IDEO...and
- Stanford Design School - dates back to 1958.
- K-12 Lab. Founded to solve a great challenge - education
- Tool for transformation
- a PROCESS to be mastered

What is Design Thinking?





DIVERGE

CONVERGE

CREATE
CHOICES

MAKE
CHOICES



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INDUSTRY



Hawaii Technology Development Venture

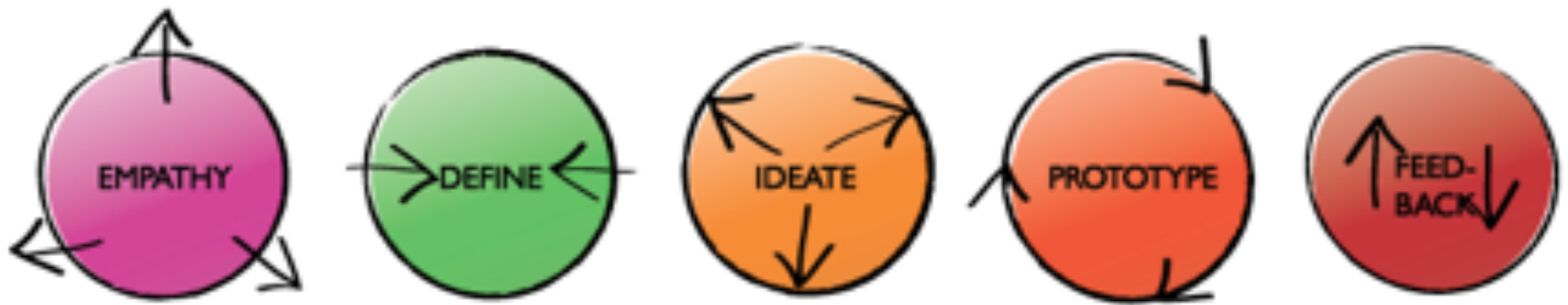


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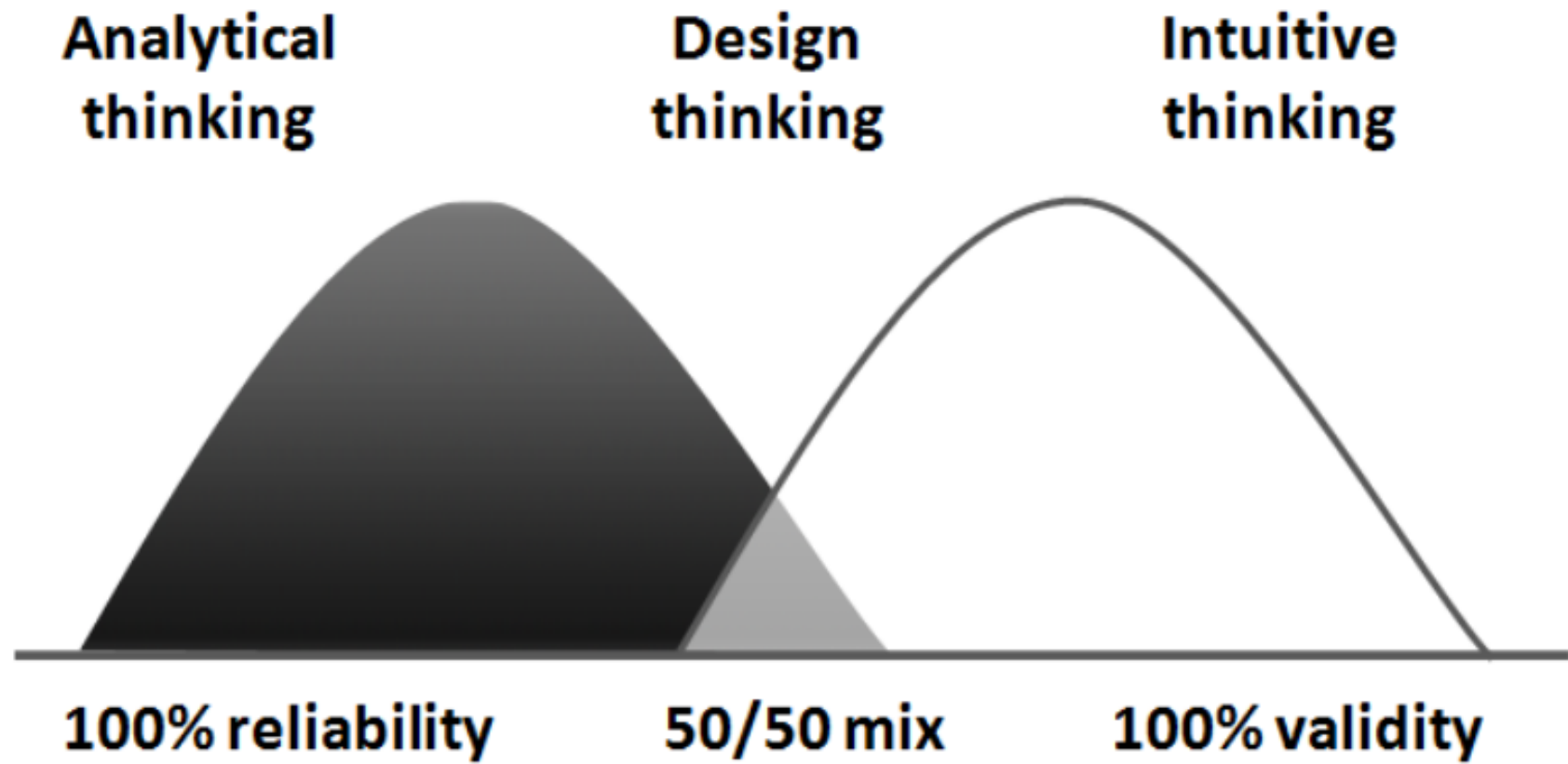


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“Make the human element as important as the technical & business elements.”

- David Kelley, Founder IDEO
& Stanford Design School



How Design Thinking is Different

How DT is Similar & Different

Traditional

- What is the right answer?
- Repeatable, proven processes
 - Design For
 - Think for insight
 - More talk
 - Stuck inside
 - Data
 - Events
 - Talk about facts
 - Siloed
 - Evolutionary (bored)

Design Thinking

- What is the right question?
- Intuitive, responsive practice
- **Design With**
- Build for insight
- More listen
- Get outside
- Stories
- Experiences
- Talk about feelings
- **Collaborative**
- Revolutionary (inspired)



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Examples of Design Thinking



Rethinking the Shopping Cart

<http://www.youtube.com/watch?v=M66ZU2PClcM>



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“Think with your hands,
build something or try something,
then talk about it, NOT the reverse.”

- David Kelley, Founder IDEO
& Stanford Design School

The Wallet Challenge

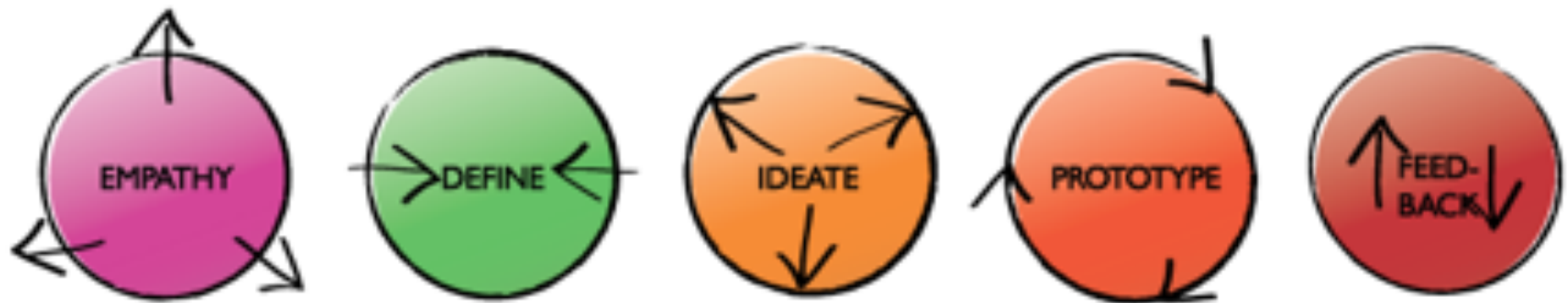
Design the **IDEAL** wallet:
YOUR

1) Design a **BETTER** wallet:

sketch your best idea here:

00:04

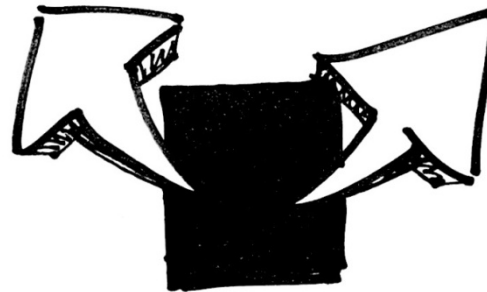
Design Thinking Process



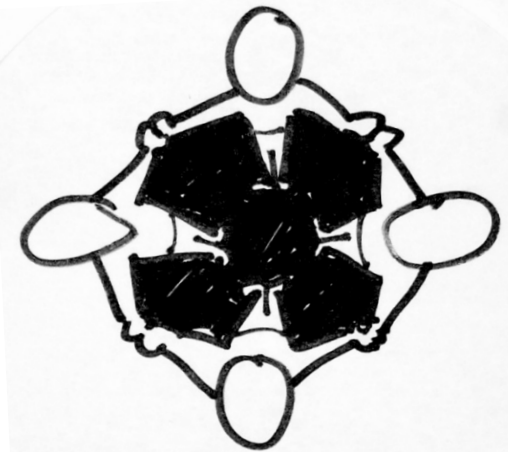
The Design Thinking Mindset



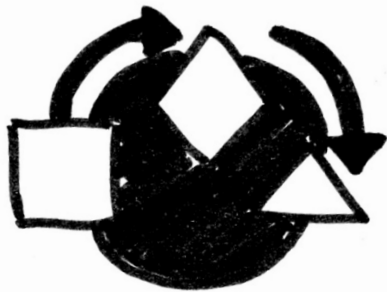
HUMAN
CENTERED



BIAS
TOWARD
ACTION



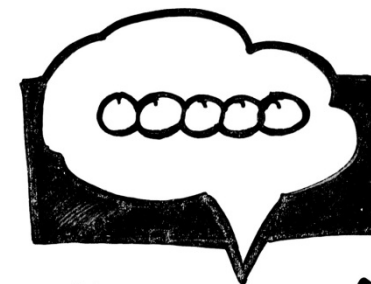
RADICAL
COLLABORATION



CULTURE
OF
PROTOTYPING



SHOW
DON'T
TELL



MINDFUL of
PROCESS

Rules of Engagement

- Think like a child
- Defer judgment – NO blocking
- Encourage wild ideas
- Stay on topic
- Quantity over quality
- One conversation at a time
- Be visual
- Build on the ideas of others



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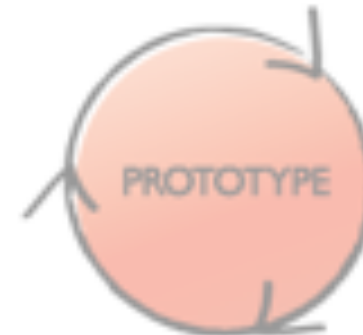


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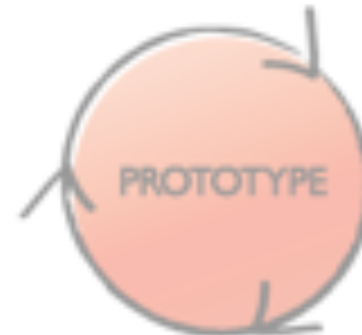


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Your Mission: Design something **USEFUL & MEANINGFUL** for your partner. Start by **GAINING EMPATHY:**

(You are NOT just designing a wallet.)

2) Interview

Ask your partner to introduce themselves to you by walking you through the contents of their purse or wallet. Ask questions.

NOTES/SKETCHES:

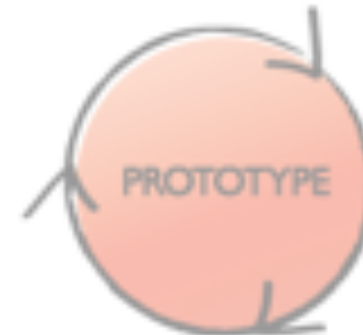
00:05 per person

What stood out to you? What are you curious about?

INSIGHTS:

00:01 per person

Switch roles & repeat Interview 1.



Articulate your current **POINT OF VIEW:**

EMPATHY

3) Inventory possible NEEDS:

4) DEFINE a Problem Statement:



_____ name

things they are trying to do (**needs**):

ways they want to feel (**insight/meaning**):

00.03



_____ name

NEEDS A WAY TO

_____ user's need

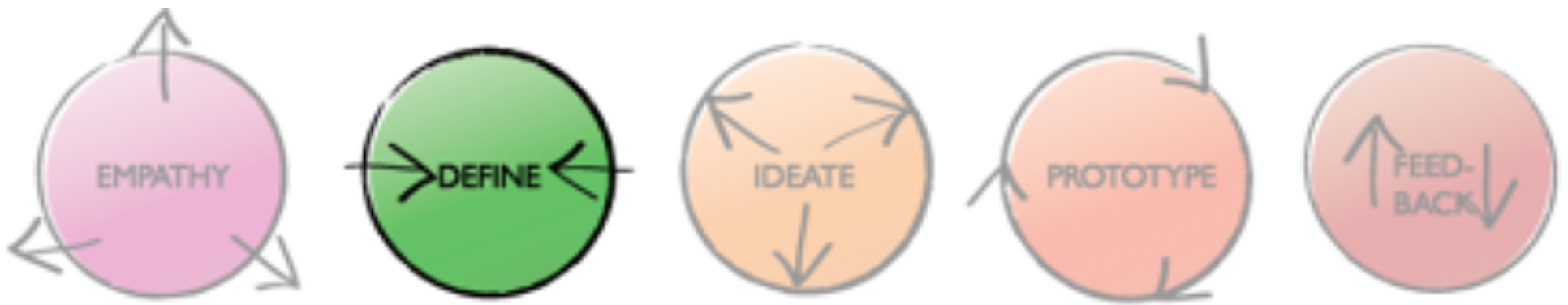
in a way that makes them FEEL

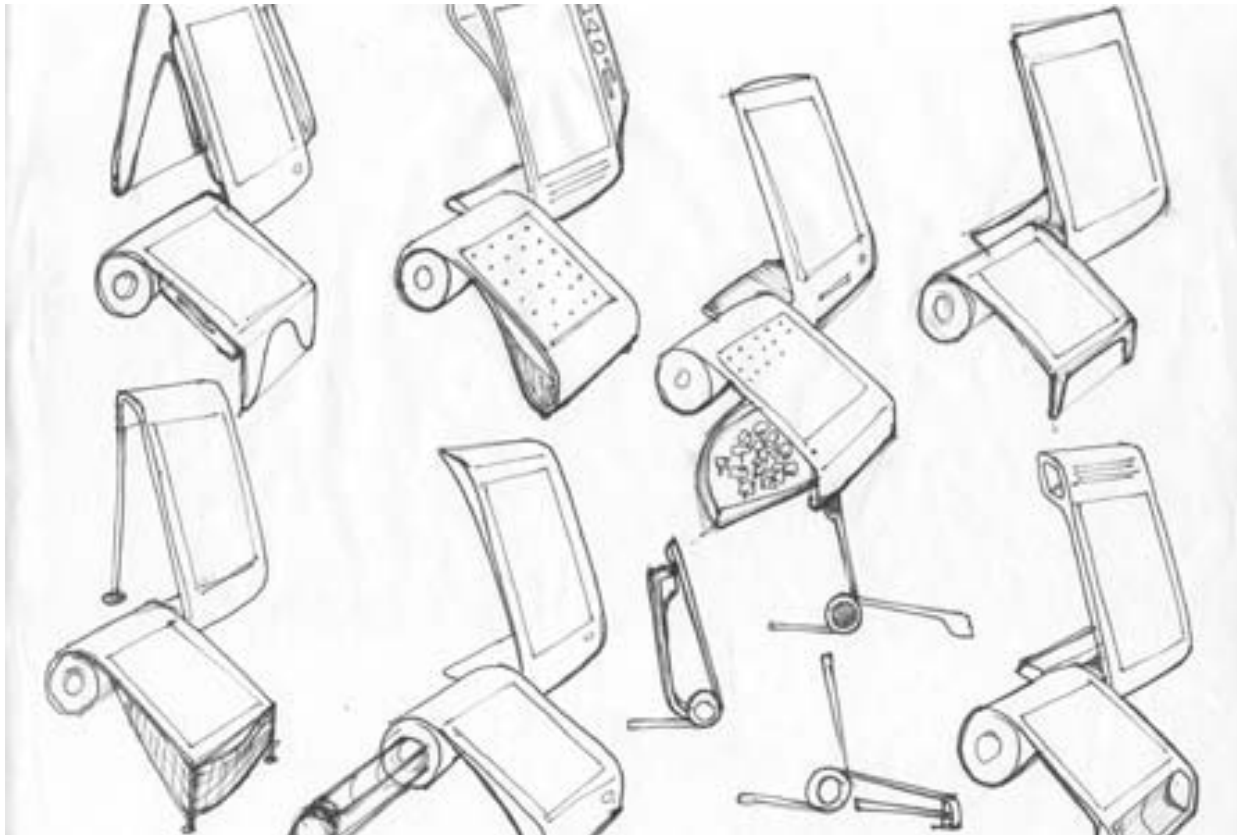
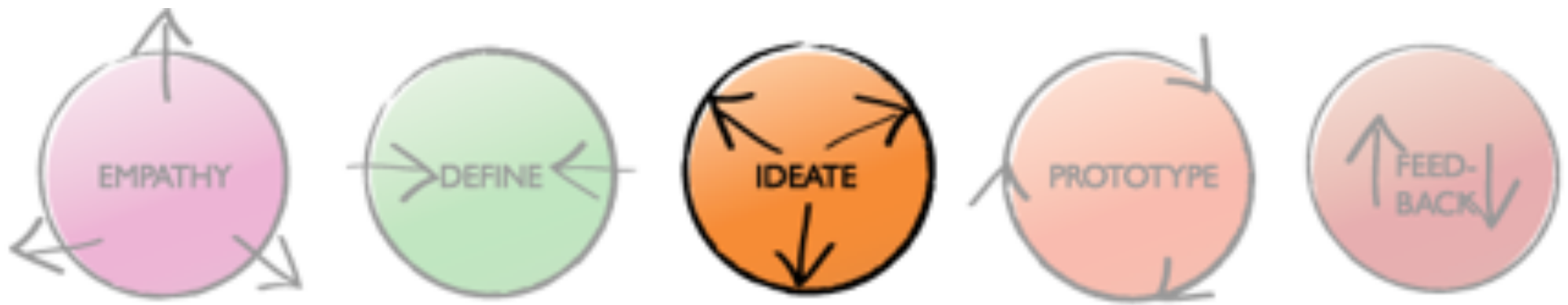
_____ insight/meaning

[my problem statement]

00.03

to bring to the next page!





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Hotels & Resorts, LP

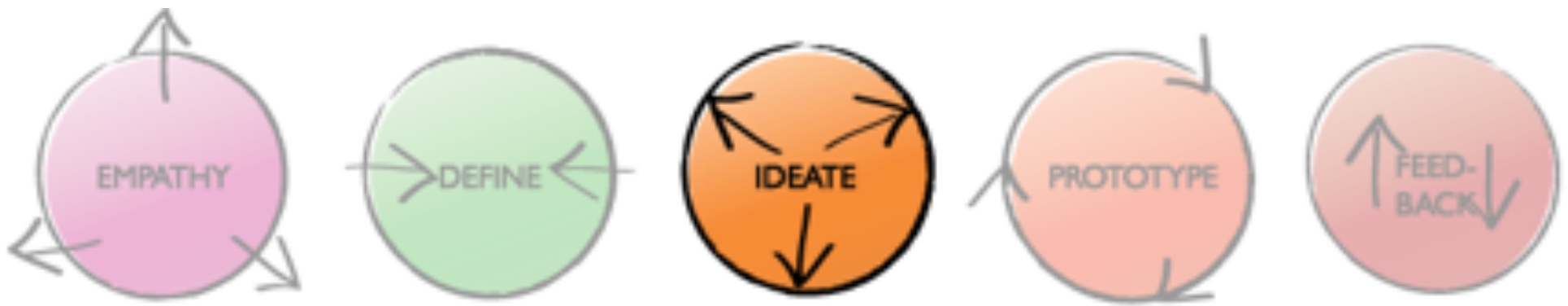


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Generate alternatives to test:

PROTOTYPING

5) Sketch **3-7** RADICAL ways to meet your user's needs:

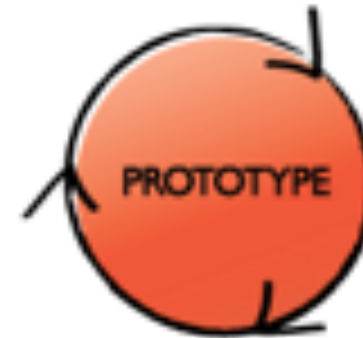
[put problem statement here]

00:05

6) SHARE your solutions + **CAPTURE** feedback.

00:03 per person

Switch roles & repeat sharing.



RAPID PROTOTYPING + FEEDBACK

7) **BUILD** your solution.

Make something your partner can interact with!



00:15

8) **SHARE** your solution + **CAPTURE** feedback.

+ [What worked...

- What could be improved...

? Questions...

! Ideas...

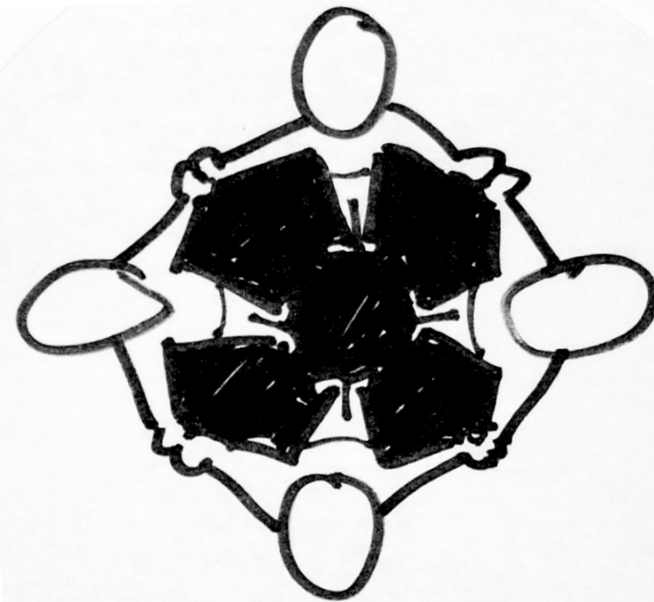
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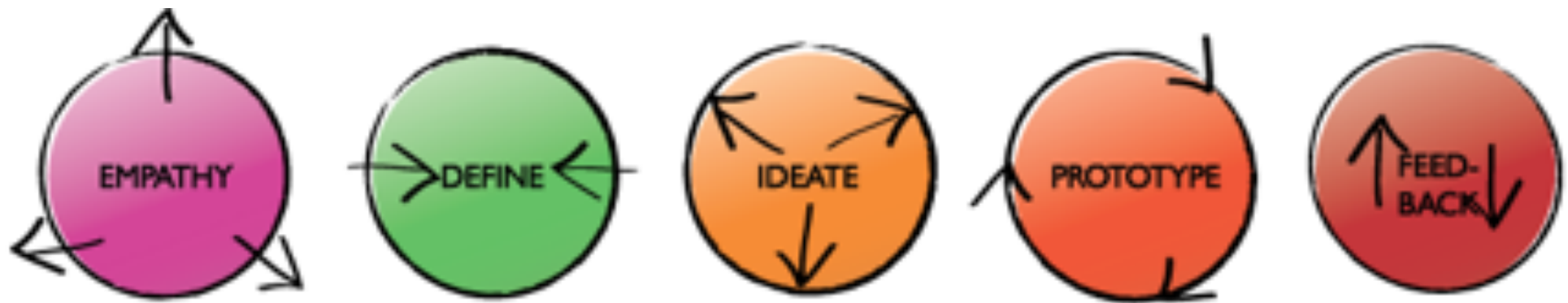
Switch roles & repeat sharing.

Share



00:06





BE MINDFUL of your innovation process:

REFLECT

9) **REFLECT** on your design thinking process:

1. Was your final design the same or different than your ideal design?
2. Where did you get stuck?
3. When did you get your a-ha's?
4. How did EMPATHY contribute to your design?
5. How did PROTOTYPING alternatives contribute to your design?
6. How did FEEDBACK contribute to your design?
7. How would you improve your process?

00:05

Resource Materials (clickable)

- [Changing education paradigms](#) (video)
- [Teaching design for change](#) (video)
- [Design Thinking for K-12](#) (video)
- [Design Thinking Bootcamp Manual by Stanford D. School](#) (PDF)
- [12 Ways To Add Design Thinking Into Your Project](#) (video)
- [IDEO Shopping Cart – ABC Nightline](#) (video)
- [Design School Blog](#) (website)
- [Stanford Design School](#) (website)
- [IDEO.com](#) (website)
- [Design Thinking resources on Alltop](#) (websites)
- [Teaching Design Thinking in K-12](#) (website, curriculum)
- [Creating Entrepreneurs with Design Thinking](#) (video)
- [Design Thinking isn't a Miracle Cure but Here's How it Helps](#) (article)



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Modes & Methods (clickable links)

	Empathy	Define	Ideate	Prototype	Test
Level 1	1.Open-ended Questions 2.Video observation 3. Space Saturation	1.POV Madlibs	1. Simple Brainstorming 2. Paper_clip Brainstorm	1. Paper Prototype	1. Basic Presen
Level 2	1. Basic interviewing skills 2.Observation vs interpretation 3.Field notes	1. Empathy Map 2. other mapping techniques like Journey mapping	1. Brainstorming with Rules	1. Physical Prototype 2. looks like/ works like	1. 4 quadrant test
Level 3	1. how/why laddering 2. Walk in the Moccasins 3. Whose Life	1. Want Ad 2. 2X2s	1. Visual Brainstorming 2. Bodystorming	1. Role Playing 2. Prototype to decide 3. Identify a variable	1. Testing Scenarios 2. Evolution of a prototype
Level 4	1. Powers of 10 2.Community map	1. Metaphor	1. Crowd Sourcing	1. Prototype intangibles	1. Surveys 2. Real-World Testing

Design Thinking in Education

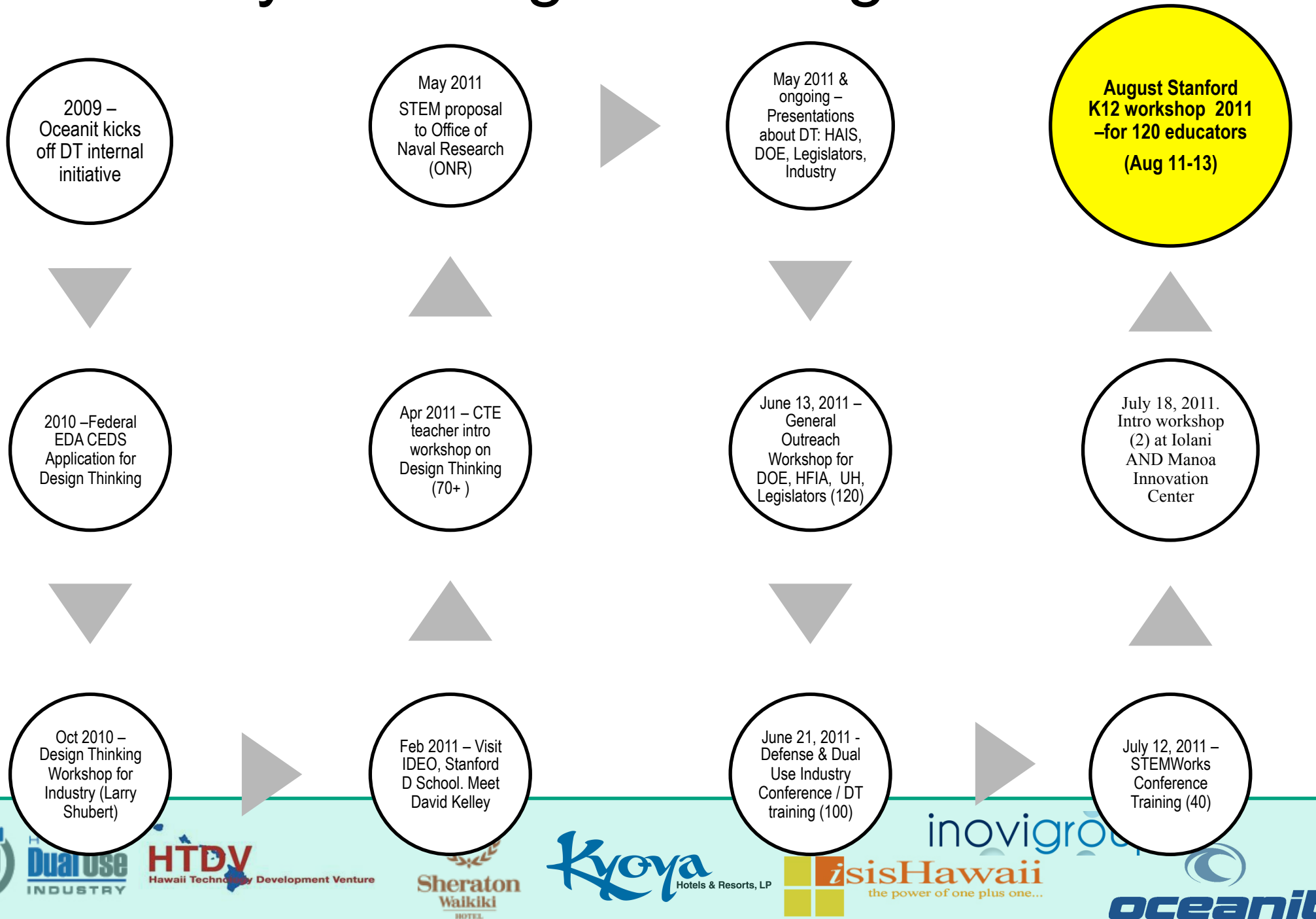
<http://vimeo.com/13147138?ab>



“...the ability to exploit opposing ideas and opposing constraints to create new solutions.”

- Professor Roger Martin, University of Toronto

History of Design Thinking in Hawaii



K-12 Design Thinking Hawaii Workshop, August 10 – 12, 2011

- A number of slots will be reserved for school teams, and approval will be based on the justification and potential use of design thinking in the school environment. Fifty slots for public school representatives are guaranteed at \$150 per participant. The Public Schools of Hawaii Foundation is the title sponsor.
- **Cost** – The cost of the workshop is \$1,500 per participant. We are hoping to secure sponsorships to reduce the fee to \$150. Applicants should be prepared to pay the actual cost of \$1,500 per participant
- **Deadlines** – July 10 is the application deadline for 1st and 2nd Priority Groups. July 12 is the application deadline for all other categories. Notice of acceptance of applications will be emailed to applicants by July 15 with instructions on how to register online.



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K-12 Design Thinking Hawaii Workshop, August 11 – 13, 2011

- Online Application at: www.surveymonkey.com/s/QZYJXJN
- **Workshop is limited to 150 participants.** A waiting list will be maintained in the event the workshop is over-subscribed.
- **Admission Guidelines:** Consideration will be given to applicants who bring the following leadership to the workshop:
 - **Level 1:** DOE Superintendent and Deputies, Board of Education members, Public School Foundation members, Industry Sponsors, DOE Program Specialists and District Superintendents, and Schools of the Future members.
 - **Level 2:** CTE Program leadership, School Complex teams, C4 leadership, HAIS leadership, and UH leadership and Board of Regents.
 - **Level 3:** School leadership teams comprising Principals/Vice Principals, Curriculum Specialists/ Facilities Team Leaders, and Teachers.



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Who is using Design Thinking?

- World Bank
- Japan Science and Technology Agency
- Yale University Biomedical Engineering Department, Mayo Clinic
- Smithsonian Institute
- American Institute of Architects
- Google, HP, IBM
- Deutsche Bank



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Examples of how are people using Design Thinking?

- Architecture and Urban Planning
- Master Planning and Visioning
- Facilities Design
- Branding and Product Planning
- Management Innovation
- Strategic Planning
- Technology Development

1. Challenge the questions...not the answers...challenge your assumptions
2. Think hard about who...embrace diversity, embrace partners
3. Be user-centered...design with, not for...live your customer's experience
4. Look at analogous environments...
5. Look at extremes...look at lead users, and non-users...even business models
6. Think journey...look at the entire experience
7. Build prototypes...including experiences
8. Think stories not concepts.
9. If in doubt, be open
10. Design everything...including your business model...even non-consumer facing stuff
11. Launch to learn... ship early and be open to feedback
12. and iterate
13. finally, stay optimistic...be enthusiastic!

Twelve ways to add Design Thinking to your Project

Design Thinking Is NOT

- A Miracle Cure But it really can help!!
- Design ... it captures qualities of designers and can help motivate and engage your employees.
- Magic or a Panacea... it is a process to enhance creativity, multi-disciplinary and “out of the box” thinking.
- A Quick Fix ... it takes time to implement and should not be forced.
- A Guarantee of Success...it is a complement to improve communication, collaboration and consensus building.



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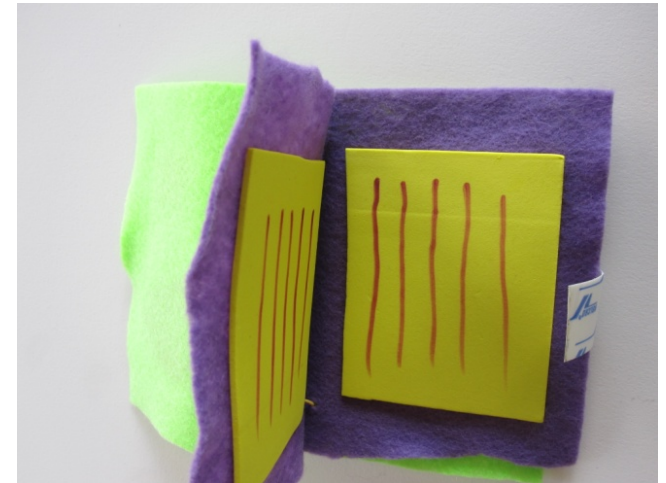
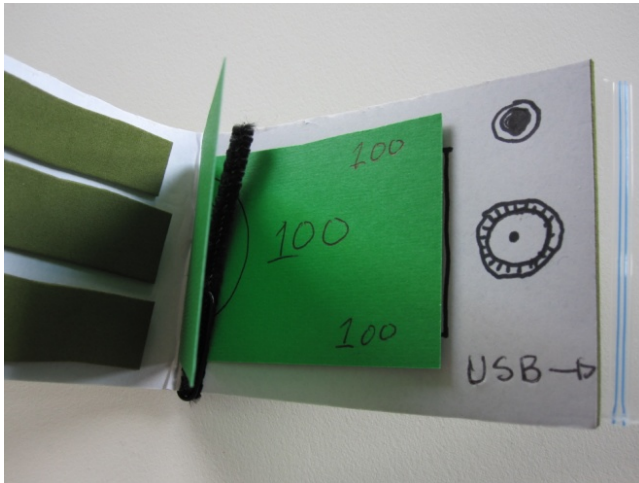
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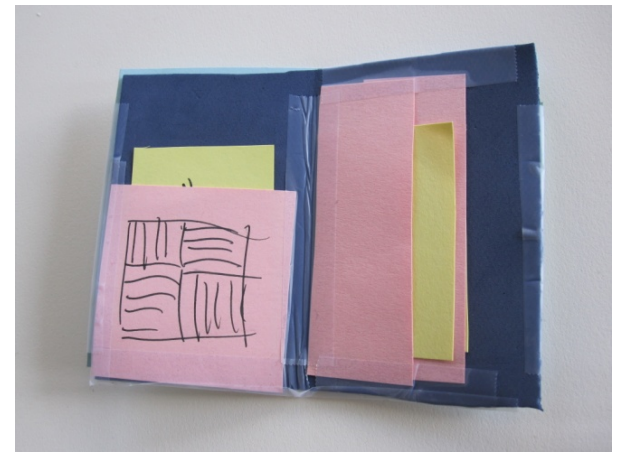
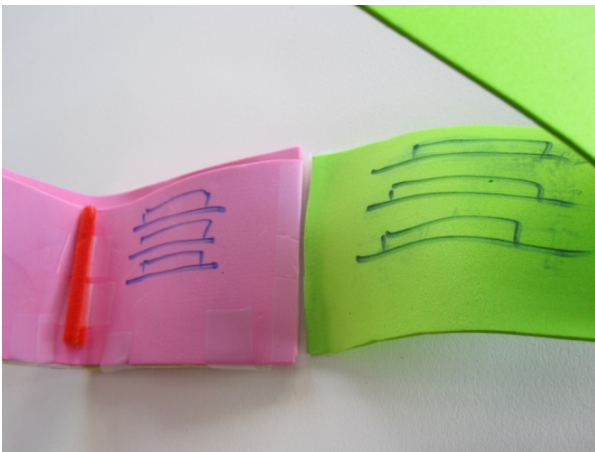
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April 2011 Intro Workshop for 70 CTE teachers (High School)





June 13th Intro Workshop for 100 Hi Educators & Industry Leaders



What's Next?

- **July 10 or 12:** Deadline for initial applicants for Stanford DT Workshop
- **July 12:** Intro workshop at STEMworks Conference on Maui
- **July 20:** Deadline for all other applicants for Stanford DT Workshop
- **August 11-13:** Stanford K-12 Lab Design Thinking Workshop at Sheraton Waikiki



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“Design Thinking Hawaii”



www.designthinkinghawaii.com